

# Recovery and Development of Siberian Tiger Populations in China

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**ABSTRACT** Siberian tiger (*Panthera tigris altaica* Temminck) is the largest cat in the world. The wild population is about 250. The population in China decreased from 120 in mid 1970's to less than 20 now. Hengdaohezi Felidae Breeding Center was established in Heilongjiang province in 1986. The Siberian tigers were fed artificially and were trained to reintroduce primarily. The population increased from eight to seventy by hard work for about ten years. In the meantime, the researchers have done much research work on physiology, biochemistry, breeding, behavior, disease prevention and so on, they have got much valuable information of tiger population. In January, 1996, "Siberian Tiger Park" was built on the east side of The Sun Island in Harbin. The China's unique and the world's largest Siberian Tiger groups are being domesticated here. Because of the change of the living condition, the focal point of the tiger population management is now to reintroduce the tigers. So, the tigers are being trained to learn how to prey in the wild, how to adapt the bad nature environment and increase the ability of disease prevention. Tourists can enter the park by tour bus or by their own car. The income of the park tickets can be used to build the park and develop the tiger population. It is a good opportunity to increase the consciousness of Man's protecting wildlife. The large carnivores can coexist in the world with Man.

**Key words:** Siberian tiger, Population, Reintroduction

## INTRODUCTION

The Siberian tiger (*Panthera tigris altaica*) is the largest cat in the world. It is a lovely and beautiful species which is the one of largest carnivores in the world and closely related with the nature environment and the life and human. It distributes in the far east of Russia, northeastern China and Korean peninsula. The total number is about 300 (Meng et al. 1995). The Siberian tiger is the typically animal that lives in the forest. It mainly lives in the coniferous-deciduous and deciduous forests. It is the animal that moves mainly in the night. The Siberian tiger has the strong ability in walking. Its territory is about 3000-4000 km<sup>2</sup>. The Siberian tiger usually captures the live animals that are ungulates including wild boar, roe deer and red deer, when it captures the prey. It usually hides at first, then makes a surprise attack, rushes at the prey and bites its neck so that the prey cannot escape. The Siberian tiger can eat 30 kg meat at one time. If it eat enough meat at a meal, it can eat nothing for several days.

## THE STATUS OF THE SIBERIAN TIGER IN CHINA

**The Status of the Wild Population** It was recorded that there were Siberian tigers in the each mountain of the whole northeastern China in the past. According to the survey, the population were about 120 in 1974 in China. The distribution areas of the Siberian

tigers were shrunk rapidly. Most areas were broken into the separated small island by the railways, highways, cities and villages. At present, the Siberian tigers distribute mainly in Hejiang district, Mudanjiang district, Songhuajiang district of Heilongjiang Province and Yanbian Autonomous Prefecture of Jilin Province. The wild population is not more than 20(±) (Meng et al. 1995). Because the distribution area were isolated, the genes of the sub-population would not be able to exchange efficiently, the population will decline and decrease rapidly.

**The Status of Captive-Bred Tigers** The Siberian tiger is the first class conservation animal in China. The Chinese government attaches importance to the conservation of the Siberian tigers. Besides the in situ conservation, it is an important measure of ex-situ protection to breed the Siberian tigers in zoos, wildlife parks and breeding centers. At present, the total amounts of the captive-bred tigers in these places are about 250-300. The largest population of the tigers were living in the Hengdaohezi Felidae Breeding Center, Heilongjiang Province, China. The purpose for the Center raising the Siberian tigers is to enlarge the population of reproduction and survival as well as to resolve the pedigree problems on close blood relationship with their forbears, retiring of forbears and keeping the characteristics of subspecies. Following resolution to the problems above, the Center plans to carry out to research the releasing to the wild habitat, and do best to enforce the possibility of the tigers releasing. The initial number of this captive-bred population were 8 tigers in 1986. In 1987, tigers began to breed with 2 breeding females, and 8 kits were

born. In 1988 the number of breeding females increased to 5, and 14 kits were born. In 1989, the number of breeding females remained to be 5, while the kits born increased to 15, in 1990, 13 kits in 1991, 5 kits in 1992, 9 kits in 1993. In these years, 71 kits were born in all. The number of kits survived are 44. The research work on feeding, reproduction, physiology, biochemistry, disease prevention and behavior had been conducted in the center.

### THE ACHIEVEMENTS AND PROBLEMS OF REINTRODUCTION TRAIN OF THE CAPTIVE-BRED TIGERS

After the construction of ten years, the Hengdaohezi Felidae Breeding Center has established basic buildings and facilities for raising and breeding a large stock of tigers in captivity, accumulated the largest stock of tigers within China by breeding in captivity considerable, improved the ration sheet of tigers and the mating system used by zoos. And this resulted in raising the pregnancy, birth and survived rates, of tiger kits to the highest level in China. Based on the principle and purpose of establishment, the Center plays an active role in carrying out basic research on releasing tigers to their natural habitats, and drafting the research plan for releasing the Siberian tigers back to their natural habitats under the request of the department of wildlife administration in 1989, makes great efforts to fulfill the long term objective of the project for releasing tigers to field. In order to fulfill the aim, the Siberian Tiger Park was built in east side of The Sun Island in Harbin. The 30 Siberian tigers were living and trained there. The focal point of the management of tigers transferred to the reintroduction of these tigers.

**The Establishment and Selection of the Population for Reintroduction Training** The Siberian tigers for reintroduction training were selected from the Center and then transported to the park. The tigers considered to release back to the wild should be formed, in which each individual should be ferocious, cautious and alert. They should have strong body, keen ear, eye and nose. They can move quickly and capture the preys immediately. The ratio of the male/female was 1:3. From the age, the population includes the adult tigers, young tigers and baby tigers.

#### The Contents and Pattern of Tigers Training

The first link of the Siberian tiger reintroduction is to train the skill of capturing prey and the survival ability. That is to say, the Siberian tiger should learn how to search, capture and decompose the prey as well as adapt to the all kinds of bad nature environment and increase

the ability of disease prevention. Limited by the fund at present, the Siberian tigers were fed with domestic animal like cattle, sheep, rabbit and chicken etc.. These animals were transported into the park by the motor vehicles and fed from the motor. The tigers that are living in the park capture these preys immediately.

**The Preliminary Results and Analysis** The reintroduction of the tigers have made progress since January, 1996. The tigers have mastered preliminarily the skill of capturing and decomposing preys. Meanwhile, the tigers mated successfully in the nature and 3 kits were born, the survival rate is 100%. While fed by the small animals, such as chicken, rabbit, the tigers pressed them by one claw and killed it, then ate the skulls, muscles, internal organs, at last left some blood and feather or fur. While fed by the living cattle, the Siberian tigers jumped to the cattle and pressed it, bitten the back, legs or buttocks. They usually cannot bite the key part of body--throat. Because the tiger cannot capture prey alone at the beginning of training, the other tigers came over and help this tiger to capture the prey together. In nature, the wild tigers capture prey alone and attack the key part of body, this made the prey dead immediately, then the tigers eat the prey one part by one part. The reason that several tigers capture the one prey is that these tigers brought up from born and they had deep emotion and may cooperate together. Therefore, the suggestions for training tiger pointed out as following.

1. The best way is that an adult tiger was trained to capture the prey one by one at first, the prey should be from small animal to large animal, gradually, therefore, the tiger can be suitable to the train gradually.
2. After the adult tigers master the skill of capturing prey the baby tigers were put into the park, so they will learn how to capture preys from their mothers.
3. The prey should be replaced by wild animals such as roe deer, wild boar and red deer instead of living domestic animals. The better way is that these wild animals can live in the park freely and became a small population.
4. The train should be conducted in the night and at the breakout in the future.

### MEASURES AND MANAGEMENT OF RESCUING AND DEVELOPMENT THE SIBERIAN TIGERS IN CHINA

**Strengthening the Management of the Natural Habitats of Siberian Tiger** The suitable habitat conditions and sufficient foods should be provided in the natural habitats. The corridors should be built between the reserves. This is benefit for the exchange of the

genes between wild sub-population.

**Improving the Style of Training and Strengthening the Scientific Research and Exploring the Reasonable and Scientific Training Method** It is important to strengthen the management of tourists in Siberian Tiger Park and improve the consciousness of the public conservation education and bring the social, economic and ecological benefit into full play.

The stock of tigers in Felidae Center should be detected scientifically so as to establish a breeding stock of Siberian tigers of pure blood and with any inbreeding depression, then select individuals from the basic race of stock in captivity that may be able to back to the wild.

**Strengthening the Law Management** It is necessary to spread propaganda among the masses to obey the Law of Wildlife Conservation of China and

protect the tigers and their habitats and forbid the tiger bones trade.

**Developing Research and Strengthening the International Cooperation and Exchange** The scientific research on the behavior and reintroduction training should be strengthened in order to get scientific data of tigers conservation. The international cooperation should be made for tigers' conservation.

## REFERENCES

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